REGULATORY DOCKET FILE COPY

Telephone 617 366-9011
TWX
710-390-0739

YANKEE ATOMIC ELECTRIC COMPANY

WYR 78-5

YANKEE

20 Turnpike Road Westborough, Massachusetts 01581

RECEIVED JAN 26 1978 U.S. NUCLEAR REGULATORY COMMISSION Mail Section

January 20, 1978

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation

Reference: (a) License No. DPR-3 (Docket No. 50-29)
(b) USNRC letter dated December 15, 1977, Reliability of Standby Diesel Generator Units - Questionnaire

Dear Sir:

Subject: Standby Diesel Generator Units Questionnaire

As requested in your letter, Reference (b), we are forwarding to you the completed standby diesel generator units questionnaire. To the best of our knowledge all the information stated within is correct and we trust it will meet your satisfaction. If you have any additional questions or comments pertaining to this questionnaire, please contact Mr. Norman St. Laurent, Yankee Atomic Electric Company, Star Route, Rowe, Massachusetts, 01367. Telephone Number: (413) 625-6140.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

Robert H. Groce

R. H. Groce
Licensing Engineer

RTT/kg
Enclosures

8011050681

P

Questionnaire

for

NUCLEAR REGULATORY COMMISSION
RELIABILITY STUDY

of

Standby Diesel Generator Units

Date Questionnaire Completed: 1/6/78

Plant Name: YANKEE ATOMIC ELEC. CO. Unit No. ______

Diesel Manufacturer: GENERAL MOTORS Model: 7162-7000

Number of Units: 3

Size Kw/Unit: 400 KW Rated Speed: 1800 RPM

Average Operating Hours Per Unit to Date: 700

DIESEL GENERATOR STATUS

A. Engine:

1. Problems are caused chiefly by (give estimated number)

   a. Defective parts 0
   b. Installation errors: 0
   c. Failure of system to respond properly in function or sequence: 0
   d. Faulty adjustment: 0

2. Would more stringent inspection and testing requirements during acceptance or preoperational tests significantly improve the diesel-generator power plant performance?
   Yes ______ No ✓

B. Starting Systems (indicate which):

1. Air-to-cylinder cranking. ______
   Air cranking motor ______ Mfr. ______ Model No. ______
   Electric cranking motor ✓ Mfr. TECHNO Model No. ST-169D-2

2. If air cranking, then: N/A

Give size of starting air tank: Length ______ Diameter ______

Normal standby air tank pressure ________ psi.

Is pressure reducer used? Yes _____ No _____
Reducer pipe size? _______ inches.

Starting air control admission valve pipe size in air piping system, ___________ inches.

Minimum air tank pressure for engine cranking _______ psi.

Number of five-second cranking periods between above pressures with no tank recharging _________.

Number of air tanks per engine __________.

Can starting air tanks serve more than one engine?
Yes _______ No _______

Is air pipe to engine from top of air tank? Yes _____ No ____

Does starting air tank have water condensate drain?
Yes ____ No ___

Does starting air pipe have water condensate trap and drain near engine? Yes ____ No ___

Is starting air piping horizontal? Yes ____ No ____

Does it slant toward drain? Yes ____ No ____

If water condensate drains are provided, then is draining:

a. Automatic through float valve? Yes ___ No ___
b. Manual by hand valve? Yes ___ No ___
c. If manual, then is draining water condensate done:

daily? ____
weekly? ___
monthly? ___
before each start if manual? ___
no procedure? ___

Is dirt and rust filter provided in starting air pipe?
Yes ___ No ___

If provided, where installed? ______________________________

____

How is it cleaned? ______________________________

How often and when? ______________________________

Give pipe size of filter: ____________________ inches.

How is it known whether filter is plugged or has high pressure drop? ______________________________

____

Is starting air pipe to engine positioned:

a. Below floor? ____
b. On the floor? ____
c. Overhead? ____

What is air pressure drop from air tank to engine during cranking ______ psi

Give approximate length (nearest ten feet) of starting air pipe for individual engine or all engines from air tank to:

a. Nearest engine ____ feet
b. Furthest engine ____ feet

POOR ORIGINAL

Diameter of starting air pipe from:

a. Air tank to starting valve ____ inches
b. At air starting valve ____ inches
c. At engine ____ inches

What is the primary source of power for the starting air system? ______________________________

Is there a duplicate and redundant motor and air compressor set? Yes ___ No ___

What is the time required to recharge one air tank? _______ minutes

Does starting air supply system have independent secondary power supply for compressor? Yes ___ No ___

If yes, then by:

a. Gasoline engine? ____
b. Motor driven? ____
c. Other? (Specify) ________________

3. If electric (Battery powered) cranking, then:

a. Battery charging: Continuous trickle charger ✓
Intermittent charging _____

If so, how is charging requirement determined?

Time cycle MONTHLY OVER CHARGE
Test _____
Other _____

b. Battery used: Common Plant ✓
Individual Unit _____
Other _____________

Starting cable size 250 MCM & #2 ; Length: Battery to engine (longest) 320' OF 250MCM – 70' 1/C 2

C. Fuel Oil System: Bulk Tank to Day Tank

1. Does the bulk tank to day tank fuel supply system (viz: pump, motor, etc.) have redundant independent power supplies? Yes ____ No ✓ (GRAVITY FEED)

   Does this system have a hand-operated emergency fuel pump? Yes ____ No ✓

   If yes, is this hand-operated pump and piping in immediate operating condition? Yes ____ No ___

2. Is there a water and sediment drain from the very bottom of the:

   a. Bulk tank? Yes ____ No ✓
   b. Day tank? Yes ✓ No ____

3. Is the regular functional fuel oil outlet slightly above (two to three inches) the bottom of the:

   a. Bulk tank? Yes ✓ No ____
   b. Day or integral tank? Yes ✓ No ____

4. Is bottom of day tank and/or integral tank above all parts and piping of the engine fuel injection systems? Yes ____ No ✓

   If yes,

   Give approximate amount inches ____ feet ____

5. Does the engine fuel system have a fuel bleed return line to the fuel day tank and/or integral tank? Yes ✓ No ____

   During extended operation, such as more than two to three hours, does the fuel in the day tank become: (yes or no)

   a. Warm? YES
   b. Hot? NO (above 130°F)

What is fuel oil return line size (nominal)?

a. Pipe size 3/4 inches
b. Tubing size 3/4 inches

6. Do engine fuel oil filters have air bleed or vent valves readily accessible? Yes ✓ No ___

7. How is fuel transferred from day tank to engine fuel system?

a. By gravity ✓
b. Engine driven pump ___
c. Electric motor driven pump ___
d. Is a manual pump also provided for injection system filling and/or air venting after servicing or replacement of parts in the fuel injection system? Yes ✓ No ___

If yes, is the manual pump in immediate operating condition? Yes ✓ No ___

8. Type of fuel (e.g., #1, #2, #3, JP-4, etc.) #2.

9. Approximate bulk tank capacity, 30,000 gallons.

10. Typical frequency of refilling (weekly, monthly, etc.) QUARTERLY

11. Typical refill (gallons), 7600.

D. <u>Lube Oil System</u>

1. Lube oil

a. Type ARCO FLEET XHD
b. Viscosity SAE 30
c. Specification number ATLANTIC RICHFIELD CO. 71-08-14
d. Oil change determined by:

Time interval: Yes ✓ No ___
Give interval 18 mo monthly, yearly
By oil analysis: Yes ✓ No ___ (IF ANALYSIS DICTATES — OIL WOULD BE CHANGED MORE FREQUENTLY)

2. Lube oil filters are:

   a. Full flow ✓
   b. Bypass ____
   c. Combination ____

3. Interval and/or basis for changing filter cartridge:

   a. Monthly ____
   b. Yearly (18 mo)
   c. By running time ____ hours
   d. By oil analysis. Yes ✓ No ___ (MIGHT DICTATE MORE FREQUENT CHANGE)
   e. By pressure drop. Yes ___ No ✓
   f. Does provisions exist for changing cartridges during engine operation? Yes ___ No ✓

4. Oil Pressure Monitoring

   a. Normal operating pressure 55 psi
   b. Alarm 27 psi
   c. Shutdown NA psi

5. Oil temperature control:

   a. By standby heater in engine sump 125±5 °F.
   b. Heating means for maintaining standby temperature:

      Direct in oil ✓
      Oil-to-water heat exchanger ____
      Other (Specify) ____

E. Cooling System - Engine Water

   1. Temperature control by:

      a. By thermostat in water? Yes ✓ No ___

         If yes, then:

         Bypass thermostat? Yes ✓ No ___
         Throttle thermostat? Yes ___ No ___

b. By radiator shutter: (ALSO)

Automatic ✓
Manual ___
Other (give type) ______________________

2. Corrosion control (water additive)? Yes ✓ No ___

If yes, give chemical additive or name of compound.

PERRY COOLING SYSTEM CONDITIONER

Proportion or concentration control:

a. By additive measurement? Yes ✓ No ___
b. By water coolant analysis? Yes ___ No ✓

3. Engine cooling water cooled by:

a. Radiator? ✓
b. Heat exchanger from sea, river or other water? ___
c. Other? (give type) ______________________

4. Engine cooling water temperature-monitoring

a. Standby temperature 115±10°F
b. Normal operating temperature 165±10°F
c. Alarm temperature 205±5 °F
d. Shutdown temperature NA °F
e. Water circulation during standby:

Thermo-syphon ✓
Pump ___

5. Water Pressure Monitoring: Yes ___ No ✓

a. Alarm ___
b. Shutdown ___
c. Both ___

6. Water temperature Sensor Position:

   a. In piping from engine ____
   b. In engine piping ✓
   c. In engine direct ____

7. Water surge or supply tank in system. Yes ____ No ✓

   If yes, then bottom connected to:

   a. Water pump suction? Yes ____ No ____
   b. Top of system? Yes ____ No ____
   c. Both of above? Yes ____ No ____
   d. Is bottom of surge tank above top of engine system? Yes ____ No ____
   e. Does engine have constant air bleed from top of engine water piping to surge or supply tank? Yes ____ No ____
   f. Give size of bleed or vent line, ____ inches.
   g. Manual air bleed only? Yes ____ No ____

F. Governor - Speed Control

Manufacturer WOODWARD
Electric (speed sensing) ____
Hydraulic ✓
Type or code (such as EGB-35, LSG-10, etc.) SG LEVER CONTROL
Automatic load sharing? Yes ____ No ✓ (NA)

1. Is compensation or stability control and/or speed of response manually adjustable? Yes ✓ No ____

   If yes, adjusted by:

   a. Eye and ear?
   b. Test and specification? ✓ (1.B.04003C WOODWARD)
   c. Other? (Specify) ____.

2. Engine - generator normal shutdown or stopping means and method.

Is the engine stopped:

a. Manually? Yes ✓ No ___

If yes, then:

Directly at engine? Yes ___ No ✓
Through local control panel? Yes ✓ No ___ & CONTROL ROOM

b. Automatically through the controls in the control room? Yes ___ No ✓

c. By setting governor to "fuel-off" position? Yes ✓ No ___

d. By over-ride of governor settings and control position directly to fuel injection pumps? Yes ___ No ✓

e. Other means. Describe briefly. OVERSPEED SWITCH AND EMERGENCY PUSH BUTTON (LOCALLY)

3. When engine is stopped, is fuel control in:

a. Full fuel or maximum fuel position? ___
b. Full off or no fuel position? ✓
c. Intermediate? ___
d. Random? ___

(If not consistent and typical in above, then give the usual.)

4. When starting from the standby condition after shutdown for at least 24 hours, give number of seconds from start-to-crank to full fuel or maximum fuel position of governor and fuel control, 6 seconds.

G. Governor - Overspeed (shutdown)

1. Speed sensing?

   a. Electrical ✓ (GOVERNOR)
   b. Flyball ____
   c. Other (Specify) ____________

2. Fuel shutoff force generated by:

   a. Spring? ____
   b. Air? ____
   c. Hydraulic? ____
   d. Electrical? ✓
   e. Other? (Specify) TRIPS AIR DAMPER—SHUTING DOWN ENGINE

3. Overspeed sensing setting? (in terms of full speed)

   a. 115% ✓
   b. 110% ____
   c. Other (Specify) ____________

4. Is overspeed tripping set point tested periodically?
   Yes ✓ No ____

   If yes, then how often? 18 mo (yearly, monthly, etc.)

H. 1. Generator Mfr. DELCO Model No. E 4859 VB
   Single bearing or two bearings? SINGLE
   Does generator have damper windings? Yes ✓ No ____

2. Does generator have any obvious fault or difficulty?
   Yes ____ No ✓

   Is problem repetitive? Yes ____ No ____

   If yes, then describe briefly. ____________________

I. Exciter and Voltage Regulator

1. Exciter Manufacturer: DELCO Model E 4859 VB

   Type: Rotating ✓ Static ____

   If rotating drive? Direct ____
   Belt or Chain ____
   DC with field control ____
   Brushless with rectifier ✓

2. Voltage Regulator: Manufacturer DELCO Model ____

   Type: Mechanical ____ Static ✓

3. Are paralleled units of automatic load sharing control NA
   of fully automatic type? Yes ____ No ____

   If yes, has any obvious influence or interrelationship been noted between the stability and response time of the engine governor and the stability and voltage control of the generators? Yes ____ No ____

4. Have engine governor and voltage regulator/exciter adjustments been made on the site or under any conditions since any of the units have been placed in service? Yes ✓ No ____

   If yes, by means of what tests and what standards? Give name or very brief description. MANUFACTURERS

   INSTRUCTION BOOK — SPEED DROOP ADJUSTMENT ON GOVERNOR

5. If any difficulties have occurred, give approximate NA
   number of problems.

   a. Components ____
   b. Wiring ____
   c. Other (damage in service or dropping of miscellaneous hardware into switchboard, etc.) ____.

J. Paralleling: Engine-Generator Units NA

1. Do all units consistently have the proper voltage output? Yes ____ No ____

2. Do all units automatically share both the "real" or in-phase load and also the reactive load reasonably well? Yes ____ No ____

3. At the same Kw load, are both the field and the armature line currents of the several units consistently close to the same value? Yes ____ No ____

   If no, approximate percent difference. ____________

4. Synchronizing NA

   a. In automatic synchronizing do circuit breakers close immediately after reaching full synchronous speed? Yes ______ No _____

   b. If "no" above then, does speed of some units drift slowly while failing to synchronize and close circuit breakers?

      How many seconds? ____________

      Occasionally _____
      Always _______
      Never _____

K. Switch Gear and Electrical Controls (other than exciter/voltage regulator)

1. If any difficulties have occurred, then give approximate number of problems.

   a. Components 2
   b. Wiring 0
   c. Other (damage in service or dropping of miscellaneous hardware into switchboard, etc.) 0
   d. Design concept faults. That is, does the switch gear and its controls perform the proper functions and in proper sequence and timing. 0

2. a. Do the on-site diesel generator units and related support equipment have any storage battery power systems for any service whatsoever? Yes ✓ No ___

   b. Identify each storage battery power system associated with the on-site diesel generator unit and its function. 3 STATION SERVICE BATTERIES — ONE FOR EACH DIESEL FOR STARTING & CONTROL POWER

   c. Does each system identified above adequately fulfill the service requirements for which it is intended? Yes ✓ No ___

      If no, briefly describe. ___

   d. Is there a DG battery maintenance program? Yes ✓ No ___

L. Safety Shut downs

Give safety shut down settings compared to equilibrium operating conditions.

1. Engine and generator speed. Give rpm or hertz:

   a. Synchronous and usual 1800 rpm or 60 Hz
   b. Overspeed shutdown setting 2070 rpm or ___ hz

2. Engine cooling water (see E.4)

   a. Equilibrium 115±10 °F
   b. Alarm 205±5 °F
   c. Shut down NA °F

3. Lube oil pressure (see D.4)

   a. Equilibrium 55 psi
   b. Alarm 27 psi
   c. Shut down NA psi

4. Lube oil temperature

   a. Equilibrium 125±5 °F
   b. Alarm NA °F
   c. Shutdown NA °F

5. Indicate all other protective interlocks (give name and;)

   a. Usual or proper condition OVER CRANK - ALARM- OVERSPEED 15% ABOVE RATED SPEED

   b. Shutdown condition OVERSPEED APPROXIMATELY 2100 RPM — CLOSES AIR DAMPERS

6. a. What source of power is provided to operate alarms and shutdown controls? (See G.2) STATION BATTERY

   b. Do the generator units automatically shutdown in case of the electrical power loss to its control system? Yes ✓ No __

M. Emergency or Alert Conditions

1. Are all safety shutdown and safety interlocks bypassed during emergency conditions? Yes __ No ✓

2. If "no" above, then which are not bypassed. Name items.

   OVERSPEED SHUTDOWN

3. For each interlock not bypassed is coincident logic used? Yes __ No ✓

   If yes, is it testable? Yes__ No __

N. Maintenance

1. Does plant have regularly scheduled maintenance procedures? YES

   If so, return copy of these procedures with questionnaire.

2. When need for minor adjustments obviously exists, then:

   a. Is remedial action taken immediately or at earliest practical opportunity? Yes ✓ No ____

   b. Is remedial action taken only at periodic prescheduled or programmed times and conditions? Yes ____ No ✓

   c. For best performance record which of above appears better:

      immediate or early action? ✓
      as scheduled only? ________

   d. Must permission for minor maintenace be obtained from some higher out-of-plant authority? Yes _____ No ✓

   e. Is maintenance referred to above allowed and encouraged? Yes ✓ No _____

   f. In periodic surveillance tests, simulated alert standby tests, etc., is the criteria "pass/not pass" the test used? Yes ✓ No ____

   g. Is there a conscious continuing policy to detect and remedy marginal conditions or imminent trouble: for examples: lube oil pressure shutdown only two to five psi below operating pressure or, perhaps overspeed governor setting only one or two percent above starting speed surge or etc.? Yes ✓ No ____

   h. Are efforts to remedy marginal or questionable conditions as mentioned above encouraged by plant management? _______

      Yes ✓ No ______

   i. Are remedial steps on items similar to the above taken or allowed when the unit has started and operated satisfactorily within specified limits or conditions? Yes ✓ No _____

O. Starting Conditions

1. Give starting or necessary cranking time as experienced.

   a. Starting time per specification NA seconds
   b. Usual starting time 6 seconds
   c. Maximum starting time observed 11 seconds

2. Give usual time intervals as follows:

   a. Time from start-to-crank to first firing of any cylinder. 5 seconds

   b. Time from start-to-crank to approximate full firing of all cylinders. 6 seconds

3. Give maximum speed surge when starting; use both tachometer and frequency meter if possible.

   a. Usual conditions 1800 rpm
      60 Hz
   b. Maximum observed 1950 rpm
      62 Hz

4. During a surveillance test, give time from start-to-crank to when steady synchronous speed is attained and maintained.

   a. Usual 11 seconds (NO LOAD)
   b. Maximum 15 seconds
   c. As specified NA seconds.

5. Give briefly the most troublesome problems in starting.

   a. Most troublesome GOVERNOR — TWO FAULTS (CORRECTED 1973)

   b. Next to most troublesome DC CONTROL — TWO FAULTS (CORRECTED 1976)

P. Air Cleaner or Air Filter - Combustion Air

   1. Combustion air source: taken from engine room or inside the building, or from outdoors?

      a. Indoors ✓
      b. Outdoors ______

2. Give type and make of air cleaners or air filters:

   a. Oil bath ___________ Make ___________
   b. Oil wetted screen _________ Make ___________
   c. Paper ✓ Make ROTOPAMIC
   d. Other ___________ Make ___________
   e. Precleaner: Yes ____ No ✓

3. Excessive air flow restriction and servicing need determined by?

   a. Instrument such as:

      manometer ___________
      If other give type FARR INDICATOR
   b. Personal judgement by appearance, etc. ___________
   c. By smoking exhaust ___________
   d. Time schedule ___________
   e. Other (Specify) SERVICE INDICATOR (FILTER REPLACED WHEN FLAG APPEARS)

4. Are climatic extremes normally experienced such as:

   a. Air heavily loaded with water mist, high humidity and low temperature? Yes _____ No ✓
   b. Blowing sand and dust? Yes _____ No ✓
   c. Blowing snow (blizzards)? Yes ____ No ✓
   d. Other-Name ___________

5. Are climatic extremes potentially possible such as:

   a. Air heavily loaded with water mist, high humidity and low temperature? Yes ✓ No _____
   b. Blowing sand and dust? Yes _____ No ✓
   c. Blowing snow (blizzards)? Yes ✓ No ____
   d. Other-Name ___________

Q. Temperature Conditions

1. Ambient outside hottest ~100 °F.
2. Ambient outside coldest ~-25 °F.
3. Engine-generator room hottest ~100 °F.
4. Engine-generator room coldest ~55 °F.
5. Inside switch gear hottest 85 °F
6. Inside voltage regulator or ambient near voltage regulator hottest ~100 °F
7. Ambient at exciter hottest ~100 °F

POOR ORIGINAL

R. Operator Qualifications (as presently exist and suggested minimums if different)

1. Minimum education required (check)

	Existing	Suggested
a. High School	✓	
b. Trade School	✓	✓
c. Technical School	✓	✓
d. No minimum		

2. Minimum Years of operating experience (diesel electric generator)

	Existing	Suggested
a. 0-3	✓	✓
b. 3-6		
c. 6-10		
d. 10-15		

3. Operator training

	Existing	Suggested
a. Military	✓	
b. Industrial		
c. On-the-job	✓	
d. Combination of a, b, and c (indicate which)		✓

4. Licensing required

	Existing	Suggested
a. State		
b. Federal		
c. Utility or self		
d. None	✓	✓

S. Are any foreign gases such as propane, freon, halon, carbon dioxide, etc. stored in the: Diesel Engine room? Yes _____ No ✓ or adjacent buildings? Yes ✓ No _____

If yes, (other than hand portable fire extinguishers), then identify gases and give approximate tank size.

Gases CARBON DIOXIDE Volume (ft^3) 2 BOTTLES @ ~ 200 lbs ea. (SIZE K)
NITROGEN 18 BOTTLES @ 51 ft^3 ea.

T. Does control system automatically bypass, in emergency starting, any engine temporarily out of service for maintenance? Yes _____ No ✓

If yes, then how many failures to bypass have occured?

U. Does the control system automatically override the test mode under emergency conditions? Yes _____ No _____ NA

V. Have repetitive mechanical failures occurred in any component part or subsystem of the engine, generator, or switch gear, etc.? Yes _____ No ✓

If yes, then which part or subsystem? _____

How many failures? _____

Give nature of failure. _____

W. Would periodic (yearly or other) evaluation and/or testing by "outside experts" contribute significantly to the diesel-generator reliability? Yes ✓ No _____

Give brief reasons for the answer. OUTSIDE EXPERTS ARE USED @ 18 MO INTERVALS FOR TESTING DIESEL ENGINE EQUIPMENT SUCH AS FUEL INJECTORS.

X. 1. Give the accumulated time-load operating record for each diesel-generator unit from installation to the present (Running hours):

Preoperational test Date NOV & DEC 1970

Engine Serial No.	Surv. Testing & Maintenance Hrs. No Load	Loaded	Emergency and Other Service Hrs.	Total Hours
16VA-1803	30	240	430	700
16VA-1804	36	240	430	706
16VA-1805	30	240	430	700

2. Surveillance test load (percent of continuous rating) 50%

3. Give the projected or planned time-load operation for each diesel-generator unit during the next 12 months.

Surveillance & Maintenance Hrs.	Emergency and other Service Hrs.	Total Hours	
40	—	40	

4. Provide the following summary of the periodic surveillance testing experience:

a. Starting date of surveillance testing (OL date) 12/22/70
b. Periodic test interval WEEKLY
c. Total number of surveillance tests performed 284
d. Total number of test failures 9

failure to start 4 failure to accept load 0
failure to carry load 0 failures due to operator error 0
failure due to equipment not being operative during emergency conditions 0

e. Supply a copy of the surveillance test procedures with this completed questionnaire.

dditional Comments

Diesels were installed approximately Dec. 1970 & given periodic tests. Some problems occurred & were corrected (e.g. failure to start, etc). Diesels were connected to ECCS sys ~ 3/72 with very little trouble experienced since.

Y. General Suggestions

Briefly give constructive criticism or suggestions as to improvement in reliability of the diesel generators. These remarks may cover tests, maintenance, practices, orders, policy, adjustments, etc.

NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER: 50-29

FILE NUMBER:

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

TO: N. R. C.

FROM: Yankee Atomic Elec. Co. Westborough, Mass. R. H. Groce

DATE OF DOCUMENT: 1/20/78

DATE RECEIVED: 1/26/78

☒ LETTER ☐ NOTORIZED ☒ ORIGINAL ☒ UNCLASSIFIED ☐ COPY

PROP

INPUT FORM

NUMBER OF COPIES RECEIVED: 1 SIGNED

DESCRIPTION: (1-P)

ENCLOSURE: Completed Reliability of Standby Diesel Generator Units - Questionnaire.. (22-P)

PLANT NAME: Yankee Rowe

RJL 1/30/78

1 ENCL/REPRO 25 CYS

FOR ACTION/INFORMATION

SAFETY		ENVIRONMENTAL	
ASSIGNED AD:		ASSIGNED AD:	V. MOORE (LTR)
✓ BRANCH CHIEF: (3)	SCHWENCER	BRANCH CHIEF:	
PROJECT MANAGER:		PROJECT MANAGER:	
LIC. ASST:		LIC. ASST:	
		B. HARLESS	

INTERNAL DISTRIBUTION

✓ REG FILES	SYSTEMS SAFETY	PLANT SYSTEMS	SITE SAFETY &
✓ NRC PDR	R. MATTSON	TEDESCO	ENVIRON ANALYSIS
✓ I & E (2)	SCHROEDER	BENAROYA	DENTON & MULLER
✓ OELD		LAINAS	CRUTCHFIELD
GOSSICK & STAFF	ENGINEERING	IPPOLITO	
✓ HANAUER	KNIGHT	✓ F. ROSA	ENVIRON TECH
MIPC	BOSNAK	✓ F. CLEMENSON	ERNST
CASE	SIHWEIL	OPERATING REACTORS	BALLARD
BOYD	PAWLICKI	STELLO	YOUNGBLOOD
		EISENHUT	
PROJECT MANAGEMENT	REACTOR SAFETY	SHAO	SITE TECH
SKOVHOLT	ROSS	BAER	GAMMILL (2)
P. COLLINS	NOVAK	BUTLER	
HOUSTON	ROSZTOCZY	GRIMES	SITE ANALYSIS
MELTZ	CHECK		VOLLMER
HELTEMES		✓ DIST SERV BR - M. COLLINS	BUNCH
SK	AT & I	(UNIV. OF DAYTON)	✓ J. COLLINS
	SALTZMAN		KREGER
	RUTBERG		

EXTERNAL DISTRIBUTION

CONTROL NUMBER

✓ LPDR: GREENFIELD MASS	NAT LAB:
✓ TIC	
NSIC	
REG V (J. HANCHETT)	
✓ 10 CYS SENT CATEGORY B	TO ACRS

POOR ORIGINAL

80300199

NRC FORM 195 (2-76)